SANTA CRUZ BIOTECHNOLOGY, INC.

SLITRK1 siRNA (m): sc-61562

BACKGROUND

SLITRK family proteins are integral membrane proteins that have a C-terminal domain that is partially similar to TRK neurotrophin receptor proteins and two leucine-rich repeat (LRR) domains that are similar to those of SLIT proteins. SLIT and NTRK-like protein 1 (SLITRK1) is a 696-amino acid protein that contains 13 LRRs. SLITRK1 enhances neurite outgrowth and is expressed predominantly in the frontal lobe of the cerebral cortex of the brain, but is also expressed in some astrocytic brain tumors such as gangliogliomas, gliobastomas, astrocytomas, oligodendrogliomas and primitive neuroectodermal tumors. In a small percentage of affected individuals, mutations in the SLITRK1 gene may be an indirect cause of Tourette's syndrome (TS), a genetically influenced developmental neuropsychiatric disorder characterized by chronic motor and vocal tics.

REFERENCES

1. Aruga, J., et al. 2003. Human SLITRK family genes: genomic organization and expression profiling in normal brain and brain tumor tissue. Gene 315: 87-94.
2. Olson, S., et al. 2005. Medicine. Teenager's odd chromosome points to possible Tourette syndrome gene. Science 310: 211.
3. Abelson, J.F., et al. 2005. Sequence variants in SLITRK1 are associated with Tourette's syndrome. Science 310: 317-320.
4. Burton, A. 2005. SLITRK1 trouble in Tourette's syndrome. Lancet Neurol. 4: 801.
5. Grados, M.A., et al. 2006. A new gene for Tourette's syndrome: a window into causal mechanisms? Trends Genet. 22: 291-293.
6. Deng, H., et al. 2006. Examination of the SLITRK1 gene in Caucasian patients with Tourette syndrome. Acta Neurol. Scand. 114: 400-402.
7. Keen-Kim, D., et al. 2006. Overrepresentation of rare variants in a specific ethnic group may confuse interpretation of association analyses. Hum. Mol. Genet. 15: 3324-3328.
8. Wendland, J.R., et al. 2006. Functional SLITRK1 var321, varCDfs and SLC6A4 G56A variants and susceptibility to obsessive-compulsive disorder. Mol. Psychiatry 11: 802-804.

CHROMOSOMAL LOCATION

Genetic locus: Slitrk1 (mouse) mapping to 14 E3.

PRODUCT

SLITRK1 siRNA (m) is a pool of 3 target-specific 19-25 nt siRNAs designed to knock down gene expression. Each vial contains 3.3 nmol of lyophilized siRNA, sufficient for a 10 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see SLITRK1 shRNA Plasmid (m): sc-61562-SH and SLITRK1 shRNA (m) Lentiviral Particles: sc-61562-V as alternate gene silencing products.

For independent verification of SLITRK1 (m) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-61562A, sc-61562B and sc-61562C.

STORAGE AND RESUSPENSION

Store lyophilized siRNA duplex at -20° C with desiccant. Stable for at least one year from the date of shipment. Once resuspended, store at -20° C, avoid contact with RNAses and repeated freeze thaw cycles.

Resuspend lyophilized siRNA duplex in 330 µl of the RNAse-free water provided. Resuspension of the siRNA duplex in 330 µl of RNAse-free water makes a 10 µM solution in a 10 µM Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

SLITRK1 siRNA (m) is recommended for the inhibition of SLITRK1 expression in mouse cells.

SUPPORT REAGENTS

For optimal siRNA transfection efficiency, Santa Cruz Biotechnology's siRNA Transfection Reagent: sc-29528 (0.3 ml), siRNA Transfection Medium: sc-36868 (20 ml) and siRNA Dilution Buffer: sc-29527 (1.5 ml) are recommended. Control siRNAs or Fluorescein Conjugated Control siRNAs are available as 10 µM in 66 µl. Each contain a scrambled sequence that will not lead to the specific degradation of any known cellular mRNA. Fluorescein Conjugated Control siRNAs include: sc-36869, sc-44239, sc-44240 and sc-44241. Control siRNAs include: sc-37007, sc-44230, sc-44231, sc-44232, sc-44233, sc-44234, sc-44235, sc-44236, sc-44237 and sc-44238.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor SLITRK1 gene expression knockdown using RT-PCR Primer: SLITRK1 (m)-PR: sc-61562-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.